**BAHAGIAN A**

Answer all questions.

*Jawab semua soalan*

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| **1** | 25 solid metal cylinders, each with a radius of 60 cm and a height of 280 cm, are  melted to make 40 identical solid metal cylinders. Find the volume, in cm3, of each  solid metal cylinder.  *25 buah pepejal logam berbentuk silinder, setiap satu dengan jejari 60 cm dan tinggi 280 cm, telah dileburkan untuk membentuk 40 buah pepejal logam berbentuk silinder yang serupa. Cari isipadu, dalam cm3, setiap pepejal logam silinder itu.* | |
|  | **A** | 1.98 x 106 |
| **B** | 4.52 x 105 |
| **C** | 5.39 x 104 |
| **D** | 6.27 x 103 |

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| **2** | Diagram 1 shows a right prism *PQRSTU* with a rectangular base, *PQRS*. *X* and *Y* are midpoints of the lines *TP* and *UQ* respectively.  *Rajah 1 menunjukkan sebuah prisma tegak PQRSTU dengan tapak segi empat tepat, PQRS. X dan Y adalah masing-masing titik tengah bagi garis TP dan UQ.*  Name the angle between the plane PST and the plane PTY.  Diagram 1  *Rajah 1*  *Namakan sudut di antara satah PST dengan satah PTY.* | |
|  | **A** | ∠*SYT* |
| **B** | ∠*STY* |
| **C** | ∠*SYX* |
| **D** | ∠*SXY* |

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| **3** | |  | | --- | |  |   Express  as a single fraction in its simplest form.  *Ungkapkan* *sebagai satu pecahan tunggal dalam bentuk termudah.* | |
|  | **A** |  |
| **B** |  |
| **C** |  |
| **D** |  |

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| **4** | Diagram 2 shows that a balloon is moving upwards vertically from *R* at the rate of  4 meters per minute.  *Rajah 2 menunjukkan sebiji belon bergerak tegak ke atas dari R dengan kadar 4 meter seminit.*    Given the angle of elevation of the balloon at *P* from the ball *Q* is 42°. Calculate the time taken in nearest minutes, for the balloon to reach *P*.  Diagram 2  *Rajah 2*  *Diberi sudut dongakan belon pada P dari bola Q ialah 42°. Hitungkan jumlah masa dalam minit terhampir, yang diambil oleh belon untuk tiba di P.* | |
|  | **A** | 5 |
| **B** | 7 |
| **C** | 8 |
| **D** | 10 |

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| **5** | Given that , express *q* in term of *p*.  *Diberi*  *, ungkapkan q dalam sebutan p.* | |
|  | **A** |  |
| **B** |  |
| **C** |  |
| **D** |  |

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| **6** | Table 1 shows the type of transportations used by a group of workers.  *Jadual 1 menunjukkan jenis pengangkutan yang digunakan oleh sekumpulan pekerja.*   |  |  | | --- | --- | | **Type of transportation**  ***Jenis pengangkutan*** | **Number of workers**  ***Bilangan pekerja*** | | LRT | 10  Table 1  *Jadual 1* | | Car / *Kereta* | *k* | | Bus / *Bas* | 65 | | Motorcycle / *Motosikal* | 20 |   If a worker is selected randomly, the probability that a worker going to school by car being selected is . Find the value of *k*.  *Jika seorang pekerja dipilih secara rawak, kebarangkalian seorang pekerja pergi* *bekerja dengan kereta ialah* . *Cari nilai k.* | |
|  | **A** | 25 |
| **B** | 36 |
| **C** | 76 |
| **D** | 80 |

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| **7** | In Diagram 3, the frequency polygon shows the swimming time taken by 100 swimmers.  *Dalam Rajah 3, poligon kekerapan menunjukkan masa berenang yang diambil oleh 100 orang perenang*.  Diagram 3  *Rajah 3*  Calculate the mean of swimming time, in minutes.  *Hitung min bagi masa berenang, dalam minit.* | |
|  | **A** | 3.60 |
| **B** | 4.20 |
| **C** | 4.60 |
| **D** | 4.80 |

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| **8** | A basket contains 5 roses, 8 hibiscus and *x* orchids. If the probability of selecting a rose is  , find the probability an orchid is chosen.  *Sebuah bakul mengandungi 5 kuntum bunga ros, 8 kuntum bunga raya dan x kuntum bunga orkid. Jika kebarangkalian memilih bunga ros ialah , cari kebarangkalian memilih bunga orkid.* | |
|  | **A** |  |
| **B** |  |
| **C** |  |
| **D** |  |

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| **9** | Which of the following Venn diagram represents the set *(K* intersect *L****'****)* union *M* ?  *Di antara gambar rajah Venn di bawah, yang manakah mewakili set (K intersect L****'****) union M ?* |

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| **10** | Diagram 4 is a pie chart which shows the combined results of a test taken by two groups of students. Table 2 shows the incomplete results of the groups.  *Rajah 4 ialah carta pai yang menunjukkan gabungan keputusan suatu ujian bagi dua kumpulan murid. Jadual 2 menunjukkan keputusan ujian yang tidak lengkap mengikut kumpulan.*  3000  Fail  *Gagal*  Pass  *Lulus*  Diagram 4  *Rajah 4*   |  |  |  | | --- | --- | --- | | Group  *Kumpulan* | Results  *Keputusan* | | | Number of Passes  *Bilangan Lulus* | Number of Failures  *Bilangan Gagal* | | Jujur | 180 | 50 | | Dedikasi |  |  | | Total  *Jumlah* | 400 | Table 2  *Jadual 2* |   Calculate the number of students in the Dedikasi Group.  *Hitungkan bilangan murid dalam Kumpulan Dedikasi.* | |
|  | **A** | 210 |
| **B** | 250 |
| **C** | 270 |
| **D** | 300 |

*Answers / Jawapan:*

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| **1** |  | **6** |  |
| **2** |  | **7** |  |
| **3** |  | **8** |  |
| **4** |  | **9** |  |
| **5** |  | **10** |  |

**BAHAGIAN B**

Answer all questions.

*Jawab semua soalan*

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| **1** | Based on the graph, state the three inequalities that define the shaded region.  *Berdasarkan graf, nyatakan tiga ketaksamaan yang mentakrifkan rantau berlorek*.    (3,8)  *x x*  3  3  5  O  *y*  [6 marks]  *[6 markah]* |
|  | Answer:  *Jawapan:*  (i)  (ii)  (iii) |

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| **2** | A rectangle has  cm of length and cm of width. If the area of the rectangle  is 52 cm2, find the length, in cm, of the rectangle.  *Sebuah segi empat tepat mempunyai panjang*  *cm dan lebar*  *cm. Jika luas*  *segi empat tepat itu ialah 52 cm2, cari panjang segi empat tepat itu, dalam cm.*    [5 marks]  *[5 markah]* |
|  | Answer:  *Jawapan:* |

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| **3** | Diagram 5 shows a solid right prism with regular hexagon *MNOPQR* as the uniform cross-section. A hemispere is removed from this solid.  *Rajah 5 menunjukkan sebuah pepejal berbentuk prisma tegak dengan heksagon sekata MNOPQR sebagai keratan rentas seragamnya. Sebuah hemisfera dikeluarkan daripada prisma itu.*  The area of the cross-section of the right prism is 30 cm2 and the diameter of the hemisphere is 7 cm.  Diagram 5  *Rajah 5*  *Luas keratan rentas seragam prisma tegak itu ialah* 30 cm2 *dan diameter hemisfera ialah* 7 cm.  Calculate the volume, in cm3, of the remaining solid.  *Hitungkan isipadu, dalam* cm3*, pepejal yang tinggal.*  [4 marks]  *[4 markah]*  [ Use / Guna ] |
|  | Answer:  *Jawapan:* |

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| **4** | Diagram 6 shows the plan of a garden. *OTSQ* is a quadrant of a circle with centre O and has a radius 20 m. *OPUV* is a sector of a circle and *OPQR* is a semicircle with centre P.  *Rajah 6 menunjukkan pelan bagi sebuah taman. OTSQ ialah sebuah sukuan bulatan berpusat O dan mempunyai jejari 20 m. OPUV ialah satu sektor bulatan dan OPQR ialah semibulatan dengan pusat P.*  P  R  V  U  O  T  S  110oR  Q  Diagram 6  *Rajah 6*  The shaded region is a flower bed and has to be fenced.  *Kawasan berlorek ialah tapak pokok bunga dan perlu dipagar.*  Using , calculate  *Menggunakan* , hitung   1. the length, in m, of the fence required for fencing the flower bed   *panjang, dalam* m, *pagar yang diperlukan untuk memagari kawasan tapak pokok bunga.*  [6 marks]  *[6 markah]*  (b) the area, in m2, of the garden.  *luas, dalam* m2, *kawasan taman tersebut* |
|  | Answer:  *Jawapan:*    (a)  (b) |

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| **5** | A survey on the amount in a week of pocket money brought to school for 5 students had been carried out.  *Satu tinjauan terhadap 5 orang pelajar dan wang saku yang telah di bawa ke sekolah dalam satu minggu telah dibuat.*   1. (i) Complete the possible outcomes in Table 3.   *Lengkapkan kesudahan peristiwa yang mungkin di Jadual 3.*   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Pocket money  *Wang saku*  Name of students  *Nama pelajar* | **RM 3** | **RM 4** | **RM 5** | **RM 6** | | **A**zhar | (**A,3**) | (**A,4**) |  |  | | **M**eor |  |  | (**M,5**) |  | | **R**oslina |  |  |  | (**R,6**) | | **L**aili | (**L,3**) |  | (**L,5**) |  |   Table 3  *Jadual 3*  (ii) List all the possible outcomes of the students who bring the pocket money of  RM 6.  *Senaraikan semua kesudahan yang mungkin untuk pelajar yang membawa wang saku sebanyak RM 6.*  *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*  *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*   1. After that, the survey had been carried out on 100 students and the result is shown in Table 4.   *Seterusnya, tinjauan diperluaskan terhadap 100 orang murid dan maklumat berikut ditunjukkan dalam Jadual 4.*     |  |  |  |  |  | | --- | --- | --- | --- | --- | | Pocket money  *Wang saku* | RM 3 | RM 4 | RM 5 | RM 6 | | Number of students  *Bilangan pelajar* | 20 | 35 | 27 | 18 |   Table 4  *Jadual 4*  If a student is chosen at random, find the probability of the student who brings  *Jika seorang pelajar dipilih secara rawak, cari kebarangkalian pelajar itu membawa*  [5 marks]  *[5 markah]*   1. the pocket money of RM 6   *wang saku RM 6*   1. at least the pocket money of RM 4   *sekurang-kurangnya wang saku RM 4*  Answer:  *Jawapan*:  (i)  (ii) |

**SOALAN TAMAT**